

MONTANA AERONAUTICS COMMISSION



Volume 17—No. 12

November, 1966

MAC TO HOLD FOURTH AMRS

The Fourth Annual Aviation Mechanics Refresher Seminar, sponsored by the Montana Aeronautics Commission in cooperation with the Helena Public School of Aeronautics and Related Trades, Aircraft Companies, engine and component manufacturers, and the Federal Aviation Agency, will commence on November 28, 1966. Registration will be held on Sunday, Nov. 27, in the offices of the Aeronautics Commission on the Helena Airport.

All classroom sessions will be held in the facilities of the School of Aeronautics and Related Trades on the Airport and will be presented by representatives of the Federal Aviation Agency, Piper and Beech Aircraft Companies; Lycoming and Continental Engines; and component manufacturers, Hartzell, McCauley, Scintilla, Goodrich, Woodward and Champion Spark Plugs.

The 1966 Seminar will present the very latest equipment and procedures with particular accents on pressurization, turbo supercharging systems and prop turbine jet engines.

The eight day seminar will be completed with the afternoon session on December 5th. A graduation banquet will be held for all seminar participants and their guests the evening of Dec. 5.

"HOSPITAL HELIPORT PROGRAM" FOR THE IMPROVEMENT OF GREATER FACILITIES FOR HELICOPTER AMBULANCE SERVICE

A prominent official of the Vertical Lift Aircraft Council of the Aerospace Industries Association of America in Washington, D.C., has stated:

"Our nation has developed the greatest hospital system the world has ever known, but the accident victim must wait upon an ambulance. Freeways in our major cities have helicopters overhead, but only to warn of impending slow-downs. Our military can, literally in minutes, respond to the call for a Vietnamese swamp but only the distant wail of an ambulance siren reaches the scene of an auto accident."

Lifesaving, timesaving air transportation has been forcefully identified with our aerospace age. Montana has been identified nationally as one of the nation's leading states in the per capita ownership of light aircraft and the use of light airplanes and helicopters in industry and business. In the years since 1954 the Montana Aeronautics Commission has actively encouraged and vigorously participated in the development of general aviation, utility-type airports. The Commission's total Airport Development Program, including its loan pro-

gram to our larger communities for more sophisticated development in conjunction with the Federal Airport Aid Program, has been of vital importance in the growth and development of both air carrier and general aviation in the state of Montana.

It is therefore fitting and proper and with considerable pleasure that the Commission announces their "Hospital Helicopter Program," to be offered from this date forward for the development of emergency hospital heliports in conjunction with any or all Montana hospitals in the State of Montana for the furtherance of the development of helicopter ambulance service.

The administrators of all hospitals operating within the State of Montana have currently been notified that under the new program, inaugurated by the Montana Aeronautics Commission, the State Department will design, develop, construct, and mark permanent hospital heliports on suitable hospital land or rooftops provided by the hospital administration.

Hospital administrators, therefore, desirous of establishing emergency ambulance heliports in connection with their facility, may apply immediately to the Montana Aeronautics Commission, stating their needs and desires in this respect. The Airport Engineering Division of the Commis-

(Continued on Page 3, Col. 1)

Official Monthly Publication
of the
**MONTANA AERONAUTICS
COMMISSION**

Box 1698
Helena, Montana 59601

Tim Babcock, Governor

Charles A. Lynch, Director

Carl W. (Bill) Bell, Chairman
Jack R. Hughes, Vice Chairman
Peter H. Black, Secretary
Clarence Anthony, Member
E. B. Cogswell, Member
Gordon Hickman, Member
Walter Hope, Member



Letters to the Director

Dear Mr. Lynch:

For the City of Harlowton and the local flyers, I wish to thank you for the windsock and its installation. It is a fine improvement for any airport.

I have converted it to a lighted sock. The installation is now completed. I hope some of your personnel can have the opportunity to view it at night. This conversion was promised when plans for its installation was made. Harlowton is now as well equipped for night wind indications as any place, except for a control tower of FSS, as any place I know of.

Please thank Mr. Moody and others who had anything to do with this installation. Your group is a very good asset to any state aviation organization.

We haven't forgotten the help your group gave us when we up-dated our airport. Perhaps there are not too many cities who know that they can get help in planning their airport needs without untold expense. Actually help in planning and suggestions for improvements is the greatest need for many small airports.

Thanks so much,
E. H. Mielke
City Airport Manager
Harlowton, Montana

FOR SALE: 1966 Cessna 180. Cost new: \$18,176. Wanting to reduce inventory. Will sacrifice for \$15,000. Contact: Don Cazler, Townsend. Phone 226-3313.

FOR SALE: 1959 Tri-Pacer 150. 350 hrs. STOH. Primary panel—VMT 3 Super Homer—Very clean—Always hangared—must sell. Price: \$3,600. Contact: N. W. Coleman, 1124 Main, Lewistown, Phone: Evenings 538-3042.

CAB HOLDS HEARINGS ON WESTERN MONTANA AIR SERVICE INVESTIGATION

By Charles A. Smith,
Commission Attorney

The Civil Aeronautics Board held hearings in Bozeman on October 11, and in Missoula on October 13th through October 19th, in the Air Service Investigation entitled "Western Montana Service Investigation".

Charles A. Lynch, Director of the Montana Aeronautics Commission, and Charles Smith, Commission Attorney, presented the case for the State of Montana at the Missoula session of the hearing. Peter H. Black, Billings, the commercial airlines representative on the Montana Aeronautics Commission, was also in attendance at the hearings.

This investigation was instituted by the order of the Civil Aeronautics Board, dated February 16, 1966, Order E-23259. The matter at issue in this proceeding is as defined in the Board's Order of Consolidation dated June 7th, 1966, Order E-23787, to wit: whether the public convenience and necessity require the authorization of service between the terminal points, Great Falls and Billings, and the intermediate points, Missoula and Bozeman, Montana, Idaho Falls and Pocatello, Idaho, and the terminal point, Boise, Idaho, and Salt Lake City, Utah.

The hearing dates were set last July by CAB Examiner Richard A. Walsh, at a pre-hearing conference which was held in Washington, D.C. At that hearing, the Examiner ruled that any award of service in this proceeding would require mandatory stops at Missoula or Bozeman.

Airlines which have submitted proposed routes to the CAB in this proceeding are: Frontier, West Coast and Western. An award of any of the proposed routes by the CAB will provide the cities of Missoula and Bozeman with North-South air service. Presently, there is no north-south commercial air transportation at either of these two Montana cities. It is the author's view that the need for such service was conclusively established at the hearings.

The next procedural step in this investigation is the submission of briefs to the Examiner by the parties involved. Following submission of briefs to the examiner, the examiner

will render his decision. If the Civil Aeronautics Board decides to review the examiner's decision in this case, then the parties will be required to file briefs to the Board and argue the case orally before the Board in Washington, D.C. After oral argument, the CAB issues its own decision on the merits.

(This news article is presented in lieu of my usual article "A Case In Point".)



Three excellent new color films have been added to the Commission's Film Library and are available for immediate distribution. The films, available through the courtesy of Bell Helicopters, are 15 minutes in length, 16 m.m. with sound—the color, the photography and the content are extremely good—they are informational entertainment for interested groups, organizations and schools—suitable for all ages and all grade levels!

I "Aerial Applications for Agriculture"

The modern helicopter is proved to be an efficient tool in the aerial spraying operations of orchards, cotton fields, forests and a variety of farm crops. The film demonstrates through various methods of experimentation, the effectiveness and conveniences of helicopter spraying.

II. "Flying Towers"

Prefabricated towers for high voltage transmissions lines installed in a remote area, are set into place with a speed and ease unknown by the usual practised methods. In addition to personnel and equipment, the huge towers are transported and placed by the use of helicopters in a fraction of the normal time.

III. "Oil Is Where You Find It"

This film demonstrates the fast and effective use of the helicopter when oil is discovered in a near inaccessible area of South America where hundreds of inches of annual rain fall makes roads impassable. The problem of transporting manpower and the tons of necessary equipment are eliminated by the utilization of helicopters and accomplished in a remarkably short period of time.

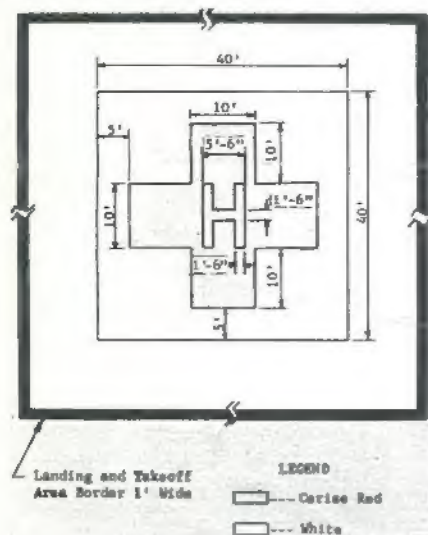
HOSPITAL HELIPORT PROGRAM

(Continued from Page 1)

sion will then make the appropriate feasibility studies at the specific hospital locations and proceed with design, construction, and marking of the heliport.

The State share of this program obviously has to be limited to the hospital heliport itself and any building modifications for the purpose of roof access to a roofmount heliport would have to be borne by the hospital administration. Hospital administrators are encouraged to take advantage of this program by the Montana Aeronautics Commission and are urged to keep the development of such a facility in mind in planning new construction for either building or grounds layout.

Probably the most critical item in the development of layout plans will be the available space for the helipad itself with clear and open approach channels as indicated in the engineering sketch shown below.



Each heliport will vary dependent upon the layout of the hospital.

Some hospitals are so constructed that the Montana Aeronautics Commission would merely have to paint the rooftop helipad marker. Other locations might prove the heliport should be on the hospital lawn. This, then, would mean the Commissions' job would be greater in that they would have to inset the marker with stone or concrete into the suitable area.

In the event the best heliport location is an auto parking lot, then it may require fencing, more pavement, and, of course, air marking.

Please feel free to contact this of-

fice further for additional information for the development of hospital heliports for the further development of helicopter ambulance services.

OPERATORS CORNER

Montana has two recently established General Aviation Operations.

MONTANA CENTRAL AVIATION

INC.—is owned and operated by Courtney Atlas and Richard Rundell. The facilities are located on the eastern end of the City/County Airport at Helena, and they are dealers for Cessna Aircraft; have Used Aircraft Sales—Gas and Oil—Shop with an A & E—tie down area—Flight Instruction and Charter.

BASS MOONEY—owned and operated by Frank Bass—is located on the airport at Lewistown, Montana. Dealer for Mooney Aircraft, have Used Aircraft—Gas, Oil—Limited storage and tie down area—Flight Instruction and Charter.

NEW OWNERSHIP

MODERN AIRE FLIGHT SERVICE. Norman Rasmussen purchased the interests of co-partner Arnold Fredriksen to become the sole owner of Modern Aire at Culbertson on October 1st. The two men have done an excellent job of enlarging the operation since its establishment in 1961. They have been influential in obtaining better airport facilities and furthering aviation in their area.

ESSA ANNOUNCES 24-HR. WEATHER STATION AT HAVRE

Through the cooperation and the action of Montana's Congressional Delegation and years of continuous effort by interested individuals, Federal Offices and aviation organizations in the Havre area, and the Montana Aeronautics Commission, the hours of operation of the Weather Bureau station at Havre will increase to 16 hours per day by the end of November and will be operating on a 24 hr. day by the end of December, 1966.

The Environmental Science Services Administration has recently released "Notifications of Employment" to their personnel in order to obtain the necessary staff for the Havre station.

99's REPORT NEW OFFICERS AND GIFT PRESENTATION

The Montana Chapter of the Ladies Ninety-Nines announced the re-election of Chairman, "Elsie" Childs, Helena; Luella Nelson, Vice-Chairman, Great Falls; Helen Dunlop of Helena, Secretary and Ann Hafer of Billings, Treasurer (new officer). Kay Widmer, Bozeman, was named Membership Chairman; Pat Johnson, Helena, Chairman of their Aviation Education program, and Beverly Ledbetter, Havre, will continue to do their Newsletter.



Secretary Helen Dunlop and Chairman Elsie Childs.

The gals were thrilled with the unexpected gift of a Collector's Copy, Number 99, of Frank Wiley's book, "Montana and the Sky", by Mr. Richard McCord of the Helena Airport maintenance staff. The group will retain the book for the benefit and pleasure of the Chapter—passing it on to each succeeding chairman.

FEDERAL AVIATION AGENCY ITINERARY LISTING



	Nov.	Dec.
Airport		
Culbertson		7
Glasgow	9	
Glendive		14
Great Falls	3	8
Miles City		15
Missoula	17	22
Sidney	18	

Note: Provisions have been made to give Private, Commercial/airplane and Flight Instructor/airplane and Instrument written examinations ON AN APPOINTMENT BASIS ONLY at the following FAA Flight Service Stations.

Bozeman
Butte
Cut Bank
Dillon

Lewistown
Livingston
Miles City
Missoula

FLYING FARMERS ELECT MILTON BUTCHER PRESIDENT AND EVELYN KRUEGER, QUEEN



New Officers and Directors (Lt. to Rt.) Front row—Dir. Leonard Sorenson, Milton Butcher, President; Henry Woods, Vice President and Martha Baldwin, Sec. Tres., (Back Row) Newly appointed director, Wayne Krueger and Ermal Hansen and Clarence Anthony, directors.

The Montana Flying Farmers and Ranchers Association elected the following at their very successful 20th Annual Convention in Shelby, September 30, 31 and October 1.

NEW OFFICERS

Milton Butcher, Winifred — President
Henry Wood, Gildford—Vice President (re-elected)
Martha Baldwin, Polson—Secretary
Treasurer (re-elected)

NEW DIRECTOR

Wayne Krueger—Reed Point.

DIRECTORS

(Carry-Over and Re-elected)

Arnold Sorenson, Kremlin
D. K. Shaules, Ballantine
Clarence Anthony, Helena
Leonard Sorenson, Bozeman
Ermal Hansen, Fort Benton.

NEW MONTANA QUEEN

Evelyn Krueger, Reed Point

The meeting was attended by numerous out-of-state Queens, Officers and visitors.

QUEENS

Mrs. Ronald (Ellen Jane) Anderson, Colorado
Mrs. Neil (Elsie) McClain, Alberta, Canada
Mrs. Edward (Deanna) Byre, South Dakota

Mrs. Robert (Paula) Kramer, Washington

Mrs. John (Irene) Thielen, Wyoming.

OFFICERS

Regional Director, Ralph Moxley and wife Blanche, Sask., Canada
International Treasurer, David Martens, and wife Bessie, Oklahoma.

Colorado President, Ron Anderson
Wyoming President, Victor Slack and wife Jackie

Sask. President, Sid Taylor and wife Marion

In addition to the Montanans—the following chapters were represented: Washington, Colorado, Wyoming, South Dakota, Missouri, Texas, Oklahoma, Alberta and Saskatchewan.

FRIDAY—The directors and various committees held their meetings followed by a Get-Acquainted party with entertainment by a number of the "Teens."

SATURDAY—The Business Meeting, attended by approximately 70 members, commenced at 8:00 a.m. Guest dignitaries were introduced and committees reports were given followed by guest speaker Montana Aeronautics Commission Director, Charles A. Lynch, and brief presentations by International Treasurer, David Martens; International Queen

Ellen Jane Anderson; and Regional Director Ralph Moxley.

Election of officers completed the business session.

During the noon luncheon entertainment was provided by a choral group from Shelby High School and Queen Laulette showed pictures of the spot landing contest during the 1966 Big Sky Race of the Ladies 99's.

Members and dignitaries spent Saturday afternoon doing a variety of optional activities. A tour of the area and the oil fields, arranged by the Shelby Chamber of Commerce, was thoroughly enjoyed by a large portion of the group.

The banquet was held at the Elks Club with 93 persons attending. Mr. Carl "Bill" Bell, M. A. C. Chairman, was the featured speaker and Assistant Director M. A. C., James Monger, was Master of Ceremonies. Two choral groups, from the Shelby High School, appearing through the arrangement of Mr. Al Klinger, former M. A. C. Commissioner, provided the very excellent entertainment.

A suitable ceremonial of Installation of Officers was conducted by out-going President Clay Greening, followed by the formal presentation of the "Flying Farmer of the Year" Plaque to Leonard Sorenson of Bozeman.



Flying Farmer of the Year, Leonard Sorenson—receiving his plaque from out-going president, Clay Greening.

Mr. Bell in his address presented a number of the Commission's activities stressing the Aviation Education program. He urged all the attending groups, of in-state and out-of-state members, to strive for the inauguration of like programs in their school systems.

In the extremely impressive and appropriate coronation, Mrs. Wayne



Featured speaker, Bill Bell during banquet presentation. (Lt. to Rt.) Mrs. David Martens; International Treasurer David Martens; Queen Laulette Hansen; MC Monger; International Queen Ellen Jane Anderson and Bell.



Following the coronation, proud husband Wayne Krueger poses with newly crowned Queen, wife Evelyn, visiting Queens and Mrs. Clay Greening.

"Evelyn" Krueger was crowned Queen for the coming year. The coronation was conducted by Queen Laulette Hanson assisted by the visiting and past Queens.

The Cessna Aircraft's "Queen" Trophy was presented by Gene Battochio, Cessna representative from Salt Lake City.

Through the efforts and complete cooperation of the Shelby Chamber of Commerce, arrangements and ac-

commodations proved to be excellent. In addition, the Chamber was responsible for furnishing the greater portion of the variety of door prizes including a 50 silver dollar prize.

A hardy "well-done" is extended to out-going President Clay Greening, wife Eleanor, and Convention Committees for a highly successful meeting—enjoyed by all!

We also extend our very best to the new officers and Queen.

"S B X"

The Shelby "H" Marker, Montana's first State owned Navigational Radio Facility, was placed in operation at 1330 hours, October 18, 1966. The 25 watt unit operates on 347 K.C. with "S B X" as the station identifier. Upon completion of a flight check by the Federal Aviation Agency, the "H" Marker will provide an approved ADF instrument approach for the Shelby Airport. Direct radio communication with Cut Bank Radio will be possible during the initial phases of the approach. The IFR Flight plans will be closed via telephone with Cut Bank Radio.



CALENDAR

November 21, (weather date Nov. 23), **Haure** — Earth Science Flying Classroom.

November 27, Helena—Registration Day for Aviation Mechanics Refresher Seminar. Registration will be held in the offices of the Aeronautics Commission on the Helena Airport.

November 28-December 5, Helena—Fourth Aviation Mechanics Seminar. Classes will be held in the facilities of the Helena Senior High School Dept. of Aeronautics and Related Trades on the Helena Airport.

November 29 & 30, Las Vegas—National Aviation Trades Association Annual Convention.

December 6 & 7, Kansas City, Mo.—Central Region State Directors Meeting.

December 6 & 7, Billings—West Yellowstone Service Case Hearing.

Jan. 15-18, 1967, Palm Springs, Calif.—19th Annual Meeting of the Helicopter Association of America and Helicopter Showcase. For reservations write to: Holiday Inn—Riviera, 1600 North Indian Ave., Palm Springs, California.

MONTANA AND THE SKY

A Christmas Gift Suggestion!! In this November issue of the Newsletter we have included a form by which Frank Wiley's book, "Montana and the Sky" may be ordered from the Montana Historical Society in time for Christmas giving to those aviation interested friends on your gift list.

FAA INSPECTOR'S CORNER



By Lee Mills, Sup'r. Inspector,
GADO 9—Helena

COLD WEATHER OPERATION OF AIRCRAFT ENGINES

The modern general aviation aircraft fly from Montana to Texas in one day and then return the next—resulting in cold weather operating problems for both the air frame and the engine. It is hard to find any publications on winter operation, so will try to pass on what information we have collected from the factory, the operators in Montana, and from our own experience.

It is possible to start aircraft engines in temperatures as low as zero degrees fahrenheit, providing that the magnetos, spark plugs and battery are in good condition, and the proper viscosity oil has been installed in the engine. However, cold starting is not advisable as it results in excessive engine wear.

In starting a cold engine in cold weather, ice may form on the spark plugs and on other parts of the combustion chamber after one or more unsuccessful attempts to start. The ice is a combination of fuel, oil and water and will prevent the plugs from firing. The engine has to be caught on the first attempt. If it starts, then dies, and then does not fire again on the next couple of attempts, you will save time, wear and tear on your starter and battery by removing the spark plugs to inspect for ice. If icing has occurred, the plugs will have to be purged.

The factories recommend that the engine be preheated; however, this practice can be incorrectly done. When a high capacity heater, such as a 100,000 BTU heater is used, with forced air being fed into the engine compartment, it is easy to preheat the cylinders to a near operating temperature long before the oil in the reservoir becomes warm enough to flow and lubricate properly. Down around zero oil is in almost a solid state, so it will be difficult for the oil pump to pick it up efficiently enough to provide proper lubrication. Remember the cylinders are lubricated by splashing; cold oil is hard

to splash. When preheating the engine, preheat the prop dome to warm the oil trapped in the dome during shut down. Directing the hot air blast on the oil reservoir will speed up the preheating process. If the oil tank is the external type, sometimes it is located in the wheel well, so in preheating the engine compartment don't forget the oil tank.

Too rapid a preheating process may also result in no starting due to wet magnetos. When the engine is allowed to cool to subfreezing temperatures, it sweats for a period of time due to condensation of the moisture vapors from the air. Water drops form both inside and outside the engine, and then freeze and stick to the surfaces. During the preheating period, the frozen water droplets are melted and when the temperature rises high enough the water will become vaporized and the engine and magnetos will become dry enough to operate properly. If you look at an engine that has been sitting for some time in the cold, you will note that there is no frost on the outside, but when the heat is applied it will become frosted on the outside. We can assume that this frost is also forming on the inside. The preheating should be continued until the frost disappears and the engine becomes dry.

In order to eliminate the possibility of bursting your oil cooler, direct some heat on it to warm up the oil. When the engine starts, high oil pressure results with the possibility of bursting the cooler. Most of the newer type coolers have by-pass valves; however, if the oil is stiff enough it may prevent the valve from opening completely.

Some of our operators use small heaters and apply them as soon as the engine is shut down for the day. The engine is covered and the heat applied right away. The heater should be installed in such a manner so as to eliminate the possibility of scorching the engine's bottom, if you will pardon the expression. I have seen heat plates with shields installed in the lower cowl, and 200 watt light bulbs if there is electricity available. The engine has to be completely covered to prevent air from flowing through the engine. There are some new catalytic heaters available which are completely safe and are used by campers. They do not give off poisonous fumes, nor will they ignite gasoline or kerosene. If you have a hangar,

investigate a camper heater.

The instruments have also been oiled and greased and at zero temperatures, this oil and grease will congeal in the instruments, so in order to reduce the maintenance to the cockpit instruments, pre-heat the cockpit also.

Maintenance is very important in the winter time as the engines operate colder, preventing proper vaporization of the fuel, resulting in clinkers forming on the spark plugs and in the combustion chambers.

In winterizing the aircraft, the operator should try to lag any external oil lines. Never block a portion of the air intake to the cylinders unless it is in accordance with the manufacturers instructions. Some aircraft provide for a winter front installation on their engines and in most cases, recommend that they be installed when the temperature goes below 40 degrees fahrenheit and removed when it goes above. Other aircraft use cowl flaps, again the operation must be in strict accordance with the instructions or possible damage to the cylinders may result. Crankcase breather tube freezing has been a problem in the past. The moisture formed in the engine is exhausted through the breather tube outlet, eventually blocking the tube. The resulting crankcase pressures blow the nose seal out of the front of the crankcase and covers the front of the engine with oil. Have a mechanic drill a 1/4 inch hole in the breather line in an area that is warmed by the engine, and in such a manner that the oil vapors do not drip on the engine. Then, if the breather tube freezes at the outlet, breathing is still permitted through the 1/4 inch hole.

By the way, have you submitted your nomination for the FAA Safety Award for your mechanic?

STATISTICS

(Montana Aircraft Accidents)

61/37

65/22

56/22

68/11

	Accident Total	Fatalities
1964 Total	61	37
1965 Total	65	22
1965 as of this date	56	22
1966 as of this date	68	11

CONGRATULATIONS



CERTIFICATES ISSUED RECENTLY TO MONTANA FLYERS

STUDENTS

Hough, McCulla—Broadus
Gable, Michael F.—Miles City
Gail, Park F.—Cody, Wyo.
Linstrand, William A.—Lewistown
Bergerson, Wilbur T.—Miles City
Jones, William J.—Billings
Hatfield, William L.—Miles City
Rockman, Eugene H.—Billings
Clark, Victoria M.—Billings
Rounce, Jeffrey A.—Sidney
Hedden, Richard L.—Sidney
Zieler, Larry K.—Billings
Bucholz, Adolph—Billings
Hotchkiss, Kenneth L.—Laurel
Hightower, John L.—Missoula
Boylan, Paul F. Jr.—Billings
McKinney, Michael W.—Edina, Minn.
Siverson, Ronald A.—Otis Orchards,
Wash.
Spain, Larry W.—Billings
Peterson, Fred G.—Billings
Greenwood, Thomas C. III—Luling,
Texas
Trebbly, Thomas J.—Spokane, Wash.
Langford, Howard H.—Lewistown
McRae, Kurt E.—Billings
Blain, Aldonna F.—Billings
Aegerter, Wallace D.—Hobson
Williams, Thomas B.—Billings
Gemar, Leslie J.—Great Falls
Doerr, Tom V.—Miles City
Emmett, Charles M.—Glendive
Croteau, Edward H.—Billings
Reinecke, Leon H.—Billings
Crocker, Cy E.—Libby
Beasley, Robert W.—Libby
Olson, Donald J.—Zurich
Cowan, Howard—Shelby
Greeno, Dean E.—Rudyard
Fitz, Vivian J.—Missoula
Groff, James P.—Kalispell
Hobaugh, William H.—Philipsburg
Brown, Lowell—Malta
Conklin, Richard J.—White Sulphur
Springs
Murdock, William J.—Whitewater
Smith, Thomas C.—Cascade
Bogar, Calvin J.—Shelby
Sullivan, Robert W.—Townsend
Bailey, Clifford M.—Missoula
Hatton, Gene—Missoula

Hubbard, Charles E.—Shelby
Kanning, Curtis F.—Shelby
King, Gordon M.—Dixon
Bonefeole, Ralph J.—Missoula
Lowry, Gordon R.—Missoula
Gordon, Oliver J.—Butte
Poirer, Earl G.—Shelby
McGimpsey, Dewayne M.—Denton
Greenfield, Rocky G.—Missoula
Cummer, Edwin R.—Missoula
Snider, Marvin D.—Helena
Culbert, Roderick—Great Falls
Downes, Donald A.—Helena
Jardine John H.—Whitehall
Banister, Larry S.—Thompson Falls
Dauma, Stephan S.—Little York,
Illinois
Mathis, Theodore E.—White Sulphur
Springs
Randall, John K.—Shelby
Roberts, Robert W.—Hamilton
Storm, Harold N.—Havre
Maynard, Donald E.—Helena
Emett, Daniel F.—Butte
Braig, Jacob J.—Great Falls
Cochrane, James W.—Hamilton
Forde, Gordon H.—Missoula
Frellick, John M.—Great Falls
Hale, Bernard E.—Missoula
Lantz, James C.—Cascade
Lepper, William F.—Reseda, Calif.
Mann, Kenneth R.—Great Falls
Meade, James L.—Great Falls
Santos-DeJesus, Jose A.—New York,
N.Y.

Stevens, Harlan R.—Missoula
Weldinger, Larry J.—Missoula
Barr, John R.—Lewistown
Robson, Robert B.—Livingston
McClintick, Bette L.—Kalispell
Trigg, Terry D.—Yuma, Ariz.
Drennon, Paul E.—Helena
Hitch, Michael L.—Malta
Reel, Dennis L.—Havre
Martinsen, Hugh A.—Missoula

PRIVATEs

Mitchell, Charles O.—Glasgow
Jacobson, Edwin L.—Hardin
Majerus, Florence C.—Lewistown
Kirley, Kevin S.—Billings
Musgrave, Richard L.—Billings
Jenni, Thomas C.—Lewistown
Morrison, Larry W.—Cheyenne, Wyo.
Jacobson, John S.—West Pittston, Pa.
Byrne, James J.—Pittsburg, Pa.
Oliver, Roy H.—Miles City
Anderson, Richard H.—Great Falls
Johns, Donald C.—Great Falls
Rang, Ronald L.—Livingston
Compton, Virgil—Whitehall
Farrar, James C.—Shelby
LaBrie, William J.—Whitefish
Dunlop, Dennis G.—Missoula
Irwin, William L.—Darby
Kohler, Anton, Jr.—Missoula

Lyman, Lee C.—Hamilton
Kimp, W. A.—Hamilton
Wutzke, Ronald A.—Great Falls
Smith, Lowell A.—Malta
Thompson, Iver W.—Lethbridge,
Canada
Borchers, Louis F.—Polson
Smith, Charles A.—Helena
Eck, Stanley E.—Helena
Hayes, Roger T.—Missoula
Kimp, Kenneth F.—Hamilton
Mower, Michael G.—Spenard, Alaska

ADVANCED AND SPECIALIZED COMMERCIAL

Neill, Roger J.—Winnipeg, Canada
Collinson, William B.—Billings
Gibson, James R.—Livingston
Shosted, James L.—Minneapolis,
Minn.
Poling, John S.—Glasgow
Towle, George W.—Great Falls
Fredrickson, Clyde H.—Missoula
Atlas, Courtney B.—Helena
Bernet, James L.—Helena

INSTRUMENT

Oglesby, Steve R.—Peerless
Womack, William L.—Billings
Deichle, Andrew J.—Billings
Shosted, James L.—Minneapolis,
Minn.

Blair, George T.—Bozeman
Currie, James M.—Big Horn, Wyo.

MULTI ENGINE

Cogswell, Edward B.—Great Falls
Oglesby, Steve R.—Peerless

ATP

Bennett, Donald V.—Evanston, Ill.

FLIGHT INSTRUCTOR

Elgin, John W.—Cody, Wyo.
Voorhees, Harry K.—Glasgow
Currie, James M.—Big Horn, Wyo.
Deichle, Andrew J.—Billings
Mahowald, Michael A.—Minneapolis,
Minn.

Blair, George T.—Bozeman

FLIGHT INSTRUCTOR

INSTRUMENT

Currie, James M.—Big Horn, Wyo.
Deichle, Andrew J.—Billings
Mahowald, Michael A.—Minneapolis
Blair, George T.—Bozeman
Strand, Myron—Kalispell

GROUND INSTRUCTOR AND

GROUND INSTRUCTOR

INSTRUMENT

Glenna, Howard D.—Minneapolis,
Minn.

ROTORCRAFT/HELICOPTER

COMMERCIAL

Bartlett, George E.—Billings
McNees, Kenneth E.—Billings
Wass, Arlin C.—Belgrade

FLIGHT INSTRUCTOR—

ROTORCRAFT

Strand, Myron K.—Kalispell

Blanchard, Allen I.—Helena
Wass, Arlin C.—Belgrade

PARACHUTE RIGGER (Back & Chest)

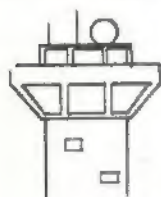
Savage, Roger L. (Master)—Missoula
Gerth, Roger W. (Senior)—Missoula
Nygaard, Nathan A. (Senior)—
Sharon, N.D.
Wilson, Garth L. (Senior)—Orofino,
Idaho
Chambers, Fred W. (Senior)—
Missoula
Sollid, Sherman A. (Senior)—Billings
White, Donald E. (Senior)—Missoula
Wamsley, Douglas S. (Senior)—
Denver, Colo.
Stolte, Lawrence W. (Senior)—
Whitefish
Moilanen, Daniel A. (Senior)—Butte
(Seat Type Added)
Bush, Vernon E.—Denver, Colo.

SPECIAL INSTRUMENT RATING WILL BE REQUIRED FOR HELICOPTER PILOTS

A new regulation announced this month by the Federal Aviation Agency will require that all helicopter pilots must have a Helicopter Instrument Rating in order to legally operate helicopters in instrument flight rule (IFR) weather conditions.

Present weather limits for visual flight rule (VFR) helicopter flight will not be altered by the rule change which became effective October 17, 1966. All flights that cannot be conducted in accordance with VFR will require the Helicopter Instrument Rating.

The new rule also requires pilots to have had at least six hours of actual or simulated IFR flight time before acting as pilot-in-command—three of the six hours must have been in a helicopter.



TOWER OPERATIONS

SEPTEMBER, 1965

	Total Operations	Instrument Operations
Billings	13,353	1,048
Great Falls	11,018	670
Missoula	6,200	272
Helena	4,024	131

OCTOBER, 1966

	Total Operations	Instrument Operations
Billings	12,342	1,185
Great Falls	9,416	719
Missoula	6,365	320
Helena	4,399	153

NEW FLIGHT SEQUENCE CARDS

Depicted below is a replica of the Flight Sequence Card which is presently being distributed to all the Montana registered pilots by the Aeronautics Commission. It is hoped that this card will be utilized by the pilots of Montana during their flights and to assist them in their flight planning.

The card lists the following: Montana controlled airfields by location and the proper radio frequencies; Montana radar approach, departure and ILS frequencies by location and frequency; Montana Navigational Aids by the Station code, identification letters, VOR frequencies, and low frequency stations which transmit continuous weather broadcasts; and Montana communications outlets, which are remoted to various Flight Service Stations.

On the back of the Flight Sequence Card you will find check lists for

take-off and landing safety; common VHF frequencies for emergency ground control; F. A. A. Flight Service Stations and Control Towers, Unicom, Multi-com and etc.; the proper cruising altitudes with reference to magnetic courses; and a flight plan sequence to assist in filing VFR or IFR Flight Plans.

Along the edges of the card are measurements of statute miles and nautical miles for the sectional chart, and on the opposite side the measure for statute miles and nautical miles on the World Aeronautical Chart.

All Registered Pilots will receive a Flight Sequence Card from the Montana Aeronautics Commission in the near future! Other interested persons may obtain one of these cards by contacting the Montana Aeronautics Commission, P. O. Box 1698, Helena, Montana, 59601.

FLIGHT SEQUENCE CARD

MONTANA AERONAUTICS COMMISSION

Box 1698 (406) 442-8140
Helena, Montana

MONTANA CONTROLLED FIELDS

LOCATION	TRANS.	RCV.	GRD.	LF
BILLINGS	118.3	118.3	122.5	278
GREAT FALLS	118.7	118.7	122.5	278
HELENA	118.3	118.3	122.5	278
MISSOULA	118.5	118.5	122.5	278

MONTANA RADAR APPROACH

DEPARTURE & INT

LOCATION	APPR.	DEP.	LOC.	G/S	OM
BT	118.1	121.1	119.3	235	487
EL	118.1	121.1	119.3	235	251

ALPHABET CODE

ALFA	—	ZULU	—	SIEBRA	—
BRAVO	—	KILO	—	TANGO	—
CHARLEY	—	LIMA	—	UNIFORM	—
DELTA	—	MIKE	—	VICTOR	—
ECHO	—	NOVEMBER	—	WHISKEY	—
FOXTROT	—	OSCAR	—	X-RAY	—
GOLF	—	PAPA	—	YANKEE	—
HOTEL	—	QUEBEC	—	ZULU	—
INDIA	—	ROMEO	—		

MONTANA NAVIGATIONAL AIDS

STATION	CODE	ID	VOR	LF
BILLINGS	—	8IL	114.5	—
BOZEMAN	—	8ZN	112.3	—
BUTTE	—	8TM	113.6	—
CUT BANK	—	CTB	114.6	263
DILLON	—	DLN	113.0	379
DRUMMOND	—	DRU	117.1	—
GLASGOW	—	GSX	113.0	238
GREAT FALLS	—	GTF	115.1	—
HELENA	—	HNL	117.9	217
KALISPELL	—	KCA	108.4	—
LEWISTOWN	—	LWT	112.0	353
LIVINGSTON	—	LYN	115.1	274
MILES CITY	—	MLS	112.3	—
MISSOULA	—	MSS	112.8	—
WHITE HALL	—	HTA	113.7	—

*TACAN & VORTAC
CONTINUOUS WEATHER BROADCAST IN BLUE

MONTANA COMMUNICATION OUTLETS

STATION	FREQ.	TO
HAYNE	123.6	GREAT FALLS
GLASGOW	123.6	MILES CITY
WEST YELLOWSTONE	122.1 & 122.2	HOAND FALLS

(Statute Miles) SECTIONAL CHART (Nautical Miles)

CHECK LISTS

TAKE-OFF SAFETY PROCEDURE

CONTROLS FREE
INSTRUMENTS CORRECT
GAS ON CORRECT POSITION
FLAPS OPERATIONAL
TRIM TABS IN POSITION
PROP EXERCISED & IN LOW PITCH
RUN UP, MAGNETOS CHECKED
SAFETY BELTS, DOOR, WINDOWS, ETC.

LANDING SAFETY PROCEDURE

GAS ON CORRECT TANK
UNDERCARRIAGE DOWN
MIXTURE FULL RICH
PROP IN LOW PITCH
SAFETY BELTS FASTENED

COMMON VHF FREQUENCIES

TO CALL	TRANSMIT	RECEIVE
GROUND CONTROL	121.7, 126.7	121.7, 126.7
FLT. SERVICE STA.	122.8, 126.7 or 123.6	122.7, 126.7 or 123.6
TOWERS	PRIMARY OR	SEE CHART
UNICOM	122.8 or 123.0	122.8 or 123.0
MULTICOM	122.9	122.9

(Phone to Phone)

CRUISING ALTITUDES (MSL) MAGNETIC COURSES

VFR

IFR

VFR 3500' ABOVE GROUND TO 29,000' MSL IFR 3500' ABOVE GROUND TO 29,000' MSL IFR 3500' ABOVE GROUND TO 29,000' MSL

FLIGHT PLAN SEQUENCE

BLUE FOR IFR

- Type of Flight Plan
- Aircraft Identification
- Aircraft Type
- Estimated Time En Route
- Time and Point of Departure
- Cruising Altitude & Route
- Destination & Alternate
- Estimated Time En Route
- Time and Point of Arrival
- Cruising Altitude & Route
- Destination & Alternate
- Estimated Time En Route
- Time and Point of Arrival
- Cruising Altitude & Route
- Destination & Alternate

REMEMBER TO CLOSE YOUR FLIGHT PLAN

(Statute Miles) WORLD AIR CHART (Nautical Miles)

AIRPORT NOTES



By James H. Monger,
Assistant Director

Noxon. The Airport Division has completed a site investigation for a general aviation emergency and recreational airport to serve the Noxon area in northwestern Montana. An airport in this location would be of tremendous value to VFR flying, especially during marginal weather. The route from Missoula to Thompson Falls and on to Spokane is often used and a large void is apparent in the Clark Fork valley between Thompson Falls and the Idaho line. The Aeronautics Commission has requested that Sanders County consider approving an airport project on an old abandoned railroad grade bed on the southwest shore of the reservoir, adjacent to the town of Noxon. The County requested an alternate site which is between the railroad bed and the townsite. A flight check has determined that the county location would be objectionable due to poor approaches and a large amount of earth would have to be moved and a considerable amount of timber removed in each approach. This office is now awaiting the decision of Sanders County on whether or not they will approve airport construction on the railroad grade. If the county turns down this proposal, the Aeronautics Commission will then have to consider a different location than Noxon for the R&E Airport.

Dillon. The runway paving at the Beaverhead County airport has been completed. The seal coat will be applied next year when weather will permit. Burgraff Construction Company was the prime contractor on this local, state and federal aid project.

Anaconda. Paving has been completed on the Anaconda airport and the lighting system is presently underway and should be completed this fall. This airport project was financed



View of Anaconda Airport, May, 1963 constructed by Edmond Harrison, (shown with MAC Assistant Director—Monger).



View of Anaconda Airport October, 1966—following completion of paving project.

jointly by local, state and federal governments.

Polson. The Polson airport is now open for traffic; however, inclement weather has suspended construction until next year when the paving will be completed. The runway is now compacted gravel and is 3,500 feet in length. As of this date, the runway lights have not been re-installed.

Stanford. Engineering is now in final stages for the new general aviation utility airport at Stanford. Judith Basin County has sponsored this project under the MAC small airport program. It is expected that bids will be advertised in late winter or early spring to allow for a 1967 early summer completion.

Hysham. The new general aviation utility airport at Hysham is currently

under construction, and will be completed late this year, weather permitting. Treasure County has sponsored this GAU airport which will be located approximately a mile and a half east of town, adjacent to old Highway No. 10. Stephen J. Kenney Construction Company of Hardin was the successful bidder with a construction cost bid of \$29,337.40.

Billings. The local, Federal Aid airport improvement project at Billings has now been completed at a total cost of approximately \$323,000. This project consisted of lighting, construction of paved access roads, construction of a paved parallel taxiway from the main apron area to the end of runway 27.

Dutton. The town of Dutton has purchased a low intensity runway

lighting system. The system is now being installed with the use of some volunteer labor and city equipment. The lighting system is being laid out by the airport division of the Montana Aeronautics Commission. The lights should be operating by mid-November.

Glendive. A site check was recently made at a location proposed for a new airport at Glendive. The location investigated was directly south of the city of Glendive and east of the river. This area proved to be unsatisfactory due to terrain obstruction, the amount of earth work necessary, and limited expansion capabilities. It is assumed now that the city of Glasgow will continue to plan to develop a new airport in the Poverty Flats area northwest of the city.

Cascade. A meeting was held with the Cascade County Commissioners concerning the possibility of constructing a general aviation utility airport at the town of Cascade. A site investigation will be made in the future; however, at this time, the Cascade County Commissioners were reluctant to enter into an airport sponsorship agreement. The town of Cascade will now consider being the sponsor.

Benchmark. The new airport sponsored by the United States Forest Service is now completed at Benchmark, approximately 30 miles west of Augusta, on the south edge of the Bob Marshall wilderness area. This airport is located on Wood Creek adjacent to the Benchmark Ranger Station at the end of the road. The airport consists of a 6,000 ft. paved runway, two aprons, segmented circle and fencing.



Aerial view of new Benchmark Airport.

The Forest Service has stated that



Shown right foreground—MAC Director, Charles Lynch and George F. Roskie, Forest Supervisor, Great Falls, during final inspection tour of Benchmark Airport.

the airport will be used primarily for forest administration, fire control, general public recreation and commercial usages for the entrance to the wilderness area. The total airport cost is approximately \$412,000. The Aeronautics Commission participated in this project by granting \$25,000. The remainder of the cost was shared by the Federal Aviation Agency and the United States Forest Service. The airport is open for traffic daylight hours only, and only as long as weather permits. Snow removal facilities will not be provided and runway lights will not be installed. A campground area is available to the flying public and separate campgrounds are available for commercial hunters and the motoring public.

Surplus Property. The airport division has screened both Malmstrom Air Force Base and the Glasgow Air Force Base for the possibility of obtaining surplus property for airport uses. We were not able to find any satisfactory equipment at either of these bases at this time.

FOR SALE: 1961 Piper 250 Comanche, 125 hours SMOH—970 hrs. TT.—Fully equipped and excellent in every way. Will finance on the most reasonable terms offered anywhere in the USA for party with approved credit. Contact: Ben Shennum, 1821 Holborn, Missoula. Phone 543-8373.

FOR SALE: Cessna 175, zero time on rebuilt engine. Take over present contract. Call State Credit Corporation. Phone: 543-8373—Missoula.

FOR SALE: 1965 PA-30 Twin Comanche, Relicensed to June 1967. 500 Total time. 2 Mark 12/360—2 VOA-4—Bendix T12-B—Marker beacon—Electric trim—Palm beach interior and exterior—Alcor unit—Factory installed console oxygen—Turbochargers. One owner only. Ship like new. Contact: Al Gillis, P. O. Box 336, Billings.

FEDERAL AVIATION AGENCY VFR EXAM-O-GRAM

GETTING CAUGHT ON TOP OF AN OVERCAST

1. DO YOU HAVE ALL OF THE FOLLOWING REQUISITES FOR INSTRUMENT FLIGHT?

(1) An Instrument Rating, (2) an aircraft fully equipped for instrument flight, and (3) recent instrument experience. If not, you should heed the following bit of advice concerning **flight over an extensive overcast cloud condition—DON'T!**

2. SHOULD YOU AVOID FLYING VFR OVER CLOUDS ENTIRELY? No. Many times it is both practical and desirable to select a cross-country cruising altitude above a **scattered** cloud condition to take advantage of smoother air, improved visibility, more favorable winds, or provide for more terrain and obstacle clearance, **provided** (1) you have **legal cloud separation** for climb, cruise, and destination descent, (2) weather conditions are stable or improving, and (3) you **stay alert** and take immediate action if the clouds beneath you increase and the "sucker holes" start to shrink. Don't wait too long to descend or make a 180° turn (one of aviation's oldest safety devices) if the situation warrants it.

3. WHAT OTHER PRECAUTIONS SHOULD YOU TAKE TO AVOID AN "ON-TOP-OF-AN OVERCAST" TRAP? (1) Prior to your cross-country flight, visit or telephone the local Weather Bureau Airport Station or

nearest FAA Flight Service Station or other flight service facility for a thorough weather briefing. Select an altitude that will be compatible with terrain and cloud separation requirements. (2) Use reasonable restraint in exercising the prerogative of VFR flight when conditions are close to minimums. Remember that, with the right conditions, a low overcast can form under you in a matter of minutes. Consider the weather, the terrain you are flying over, and allow yourself a margin of safety commensurate with your experience level. (3) When you file your VFR flight plan with a FSS, request Flight Following Service in order to take advantage of special weather briefings for your en route designated Flight Watch Station (s). Also, monitor appropriate frequencies for scheduled weather broadcasts at 15 and 45 minutes past each hour.

4. **WHAT SHOULD YOU DO IF YOU SHOULD GET CAUGHT ABOVE AN OVERCAST?** You are admittedly "in a jam." Loss of orientation, a very probable sequel to loss of ground references, will further complicate your problem. However, you can improve your chances of avoiding disaster by following a few logical procedures. (See Airman's Information Manual—"Emergency Procedures".) For example, you should (1) establish communications with an FSS or other ground station and **confess your predicament.** The personnel in these stations are well trained in assisting airmen in distress; give them a chance to help you before it's too late. If necessary, they can alert available VHF Direction Finding and Radar Stations (including military stations) to stand by for possible assistance. (2) If you have trouble establishing contact with a ground station, climbing will increase the range of your VHF radio equipment and improve the chances of ground radar detection. (3) Conserve your fuel by using an economical or maximum endurance power setting. (4) If you really need help, **comply** with instructions received from your ground station.

5. **Prevention** is a much better approach to this problem than the cure. If you are a VFR pilot, **AVOID GETTING CAUGHT ON TOP OF AN OVERCAST!**

FEDERAL AVIATION AGENCY'S MONTANA DESIGNATED EXAMINERS

PILOT EXAMINERS (Private and Commercial)

NAME	OPERATION	TOWN
Robert Winterowd	Flight Line Inc.	Belgrade/Bozeman
Dave Stradley	Gallatin Flying Service	Belgrade
Thomas Herrod	Herrod Aviation	Billings
Frank Hoffman	Hoffman's Custom Flight	Billings
Robert Palmersheim	Lynch Flying Service	Billings
Jim Rothrock	Combs/Pickens	Billings
Thomas Westall	Dillon Flying Service	Dillon
Dick Hickox	Holman Aviation	Great Falls
Robert Lohof	Holman Aviation	Great Falls
Walt Hensley	Hensley Flying Service	Havre
Jeff Morrison	Morrison Flying Service	Helena
Jack Hughes	Johnson Flying Service	Missoula
Al Hardy	Sherwood Airport	Plentywood
John Burns	Burns Flying Service	Sidney

INSTRUMENT PILOT EXAMINERS

Thomas Herrod	Herrod Aviation	Billings
Robert Palmersheim	Lynch Flying Service	Billings
Jim Rothrock	Combs/Pickens	Billings
Dick Hickox	Holman Aviation	Great Falls
Jeff Morrison	Morrison Flying Service	Helena

ROTCRAFT EXAMINER

Jack Hughes	Johnson Flying Service	Missoula
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MECHANICS EXAMINERS

Bin Rowland	Montair	Billings
Richard Rundell	Montana Central Aviation	Helena
William Korizek	School of Aeronautics	Helena

TAKEOFF AND LANDING ACCIDENTS

(From Data compiled by the Flight Safety Foundation.)

General Aviation takeoff and landing accidents for 1965 increased by 90 (or 1.7 percent) over the total analyzed for the previous year 1964. In comparison, the ratio of these accidents is nearly identical when 1964 is compared with 1965.

LET US ASK OURSELVES:

Should the increase in number of pilots and hours of flying be any excuse for a total increase as well as a continuing high percentage of takeoff and landing mishaps?

LET US STUDY THE FOLLOWING STATISTICS:

	1964	vs.	1965
TOTAL GA Accidents:	5,214		5,304 up 1.7%
Takeoff Accidents:	863 (*18.5%)		930 (*17.5%)
Landing Accidents:	3,194 (*61.3%)		3,233 (*61.0%)

TOTAL (TO & LNDG. ACCS)	4,057 (*77.8%)	4,163 (*78.5%)
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(*Percentage of the Total GA Accidents)

LET US REMEMBER:

Too many accidents are the result of a series of minor incidents—frequently due to unconscious and unsafe habit patterns.

The pilot who is constantly developing his judgement and improving skills becomes "habitually safe." He is aware that the greatest ability is made up of many minor, but accurate actions and observations and the result of using these abilities constantly. He is constantly alert to everything that is happening in every direction and maintaining control of the aircraft at all times.

LET US FORM HABITUALLY SAFE HABITS!

Landing

Never allow airspeed to drop below 140% of stall speed during the straight-in approach or the climb-out.

Never allow airspeed to drop below

120% of stall speed when over the threshold and ready for touchdown.

Always be aware of—airspeed—rate or angle of descent—alignment with centerline—flareout altitude—constant but smooth attitude change—control attitude—wind drift—complete pre-landing check list prior to base leg—plan touchdown at least 200 ft. inside threshold—and abort landing if not solidly “on” in first 1/3 of runway.

Takeoff

Actually check the approach and the runway traffic.

Every moment during the takeoff run, lift-off and climb-out, have in mind exactly what you would do in the event of an emergency.

Handle gear-up, power and prop adjustments correctly and precisely.

On the climb-out, watch your turns.

Climb at precisely the right air-

speed.

Go through a fixed routine of scanning the gauges!

Complete the “after takeoff” check-list.

Never follow immediately behind a big bird on the takeoff roll. Allow time for the wake turbulence to subside.

Make certain the runway length is equal to the aircraft manufacturer's published takeoff distance.

Abort the takeoff if not safely “airborne” on the first 50% of the runway.

FOR SALE: 1948 Aeronca Sedan. Fresh periodic. New paint—370 hrs. SMOH—Skis and spray rig included. Price: \$3,500. Contact: Chuck Jacobsen, Seaton Ranch, Fort Shaw, Mont.

FOR SALE: 1956 Cessna 172—1285 TT—400 SMOH—Full panel—Full paint—Wheel fairings—VHT 3—Clean. Will sell or trade on low time Skylane. Contact: Bob Boyce, 1025 Longstaff, Missoula.

FOR SALE: 520 Aero Commander. 33 Apache. R Bonanza. All fully equipped—priced right. Check for details by contacting: Byron Bayers, Twin Bridges, Montana.

FOR SALE: 1955—170/B; 1618 TT—338 SMOH—Narco Mark II, Mark VI & LFR 3—Grimes Beacon—Stall Warner—SA, Electric T&B—R of C—Clock—OAT—Full IFR panel—Sunvisors—New license on sale. Very clean. Price: \$5500. Phone: 732-7980. Butte.

FOR SALE: 1948 Cessna 120—Newly annualled—Ceconite fabric—3 radios—Fully IFR equipped—Metal prop—Eyebrow panel lighting—Landing lights—Rotating Beacon—plus other extras. Price: \$3,000. Contact: Wendel R. New, P.O. Box 375, Fort Peck.

FOR SALE: 1954 Tri-Pacer—300 hrs. SMOH—New Annual—Primary Panel—Superhommer—Price \$3,000—Firm. Contact: V. E. Castle, P.O. Box 164, Billings. Phone: 245-7214 weekends.

FOR SALE: Cessna 120—635 SMOH—Fresh Annual—Electric system. VHF Radio. Price \$2,500. Contact: J. M. Milligan, Rte. 1, Box 9, Helena. Phone: 442-8148.

WILL TRADE: Cessna 170—For lake frontage on Seeley, Flathead or Swan Lake. Aircraft has 50 hrs. SMOH—VC12 Narco with Omni—Partial panel—Annualled to 5/1/67. Will consider taking Boat & Motor as part payment. Contact: E. G. Neidhart, 1016 College Ave., Deer Lodge. Phone: 846-2501.

MEMBER

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PURPOSE:—“To foster aviation as an industry, as a mode of transportation for persons and property and as an arm of the national defense to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform laws and regulations; and to otherwise encourage co-operation and mutual aid among the several states.”

P. O. Box 1698

Helena, Montana, 59601

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NOVEMBER, 1966

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